Briefing to the DoDIIS User Conference
Honolulu, Hawaii
10 March 2004

DoDIIS Trusted Workstation

Secure Information Sharing

Sean Mills
Secure Systems Engineer

Trusted Computer Solutions, Inc.
2350 Corporate Park Drive,
Suite 500
Herndon, VA 20171 USA
+1.703.318.7134 (Phone)
+1.703.318.5041 (Fax)
www.tcs-sec.com

"The Leader in Secure Information Sharing"

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Agenda

- Trusted Computer Solutions Overview
- SecureOffice® Trusted Workstation™ History
- SecureOffice® Trusted Workstation™ in Operation
- TCO Analysis
- DoDIIS Trusted Workstation Demonstration

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Mission

"Provide higher assurance e-security olutions to enable secure information sharing

"Current security efforts suffer from the flawed assumption that adequate security can be provided in applications with the existing security mechanisms of mainstream operating systems. In reality, the need for secure operating systems is growing in today's computing environment due to substantial increases in connectivity and data sharing."

- National Security Agency, USA

"Decision-makers…shall first consider the procurement of commercially available products [COTS], services, and technologies …to satisfy user requirements, and shall work together to modify requirements, whenever feasible, to facilitate such procurements. Market research and analysis shall be conducted to determine the…existing commercial technologies and products…prior to the commencement of a development effort."

- DoDD 5000.1 (Defense Acquisition System), 23 Oct 2000 (w/Change 1 of 4 Jan 2001)

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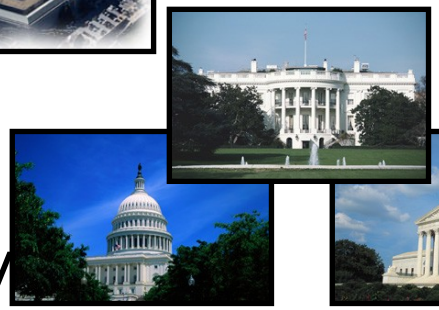
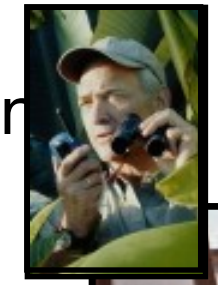
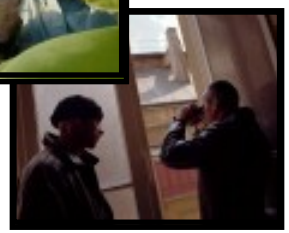
Background

- Founded in 1994
- 10 years of sustained profitable growth
- High assurance e-security solution provider
  - Defense Department
  - Intelligence Community
  - Civilian Government Agenci
  - Fortune 500 companies
- Recognized leader in secure "Cross Domain Interoperability"







A World Leader

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Skill Base

Trusted Operating System Leadership

Secure network design and implementation

“Turn-key” high assurance “secure information sharing" solutions

Trusted Computer Solutions

Network security assessments

Security certification and accreditation

Security training and awareness

Oracle Label Security expertise

World Class Technical Expertise

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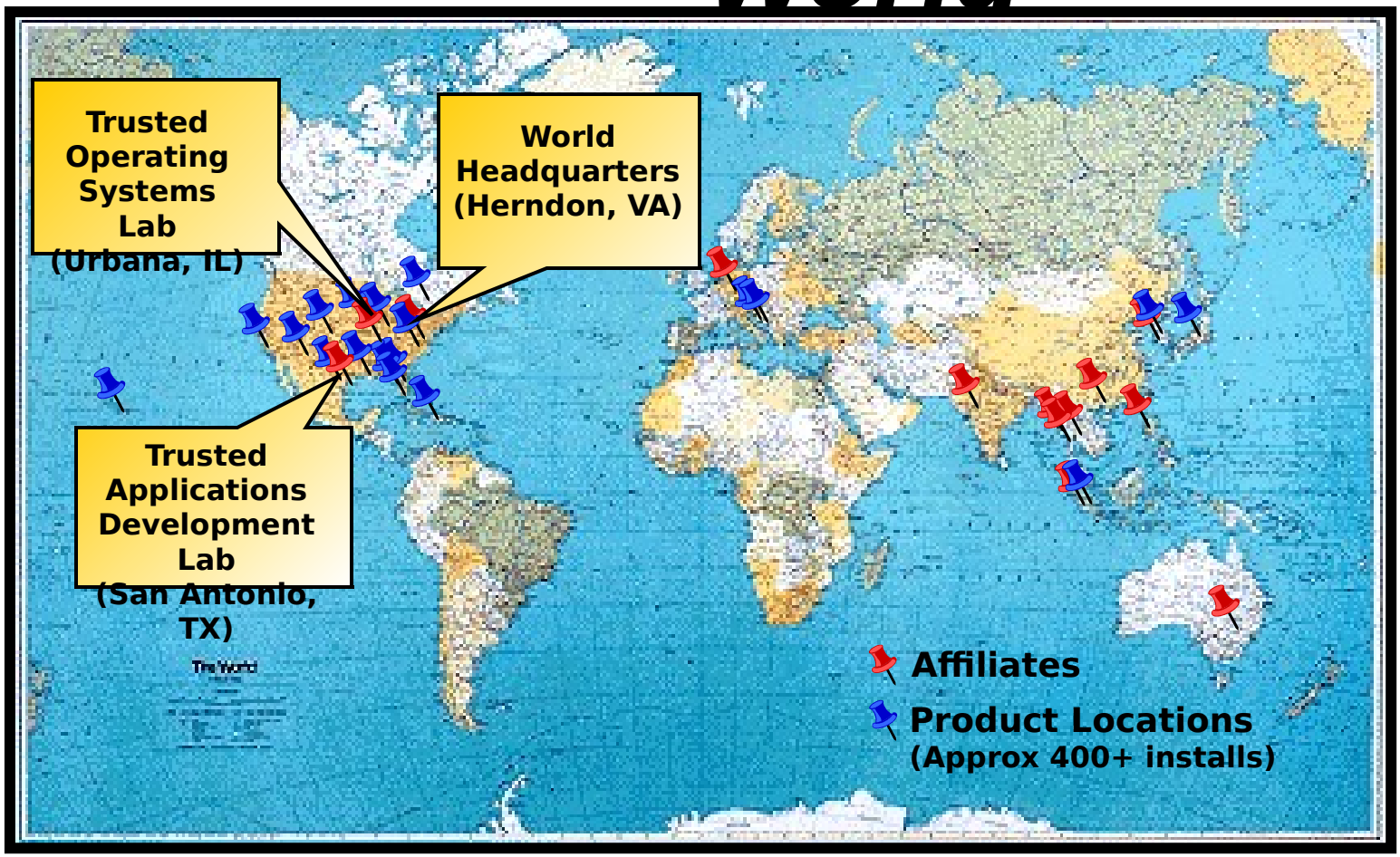
TCS "Around the World"



A Global Presence

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Cross Domain Interoperability…

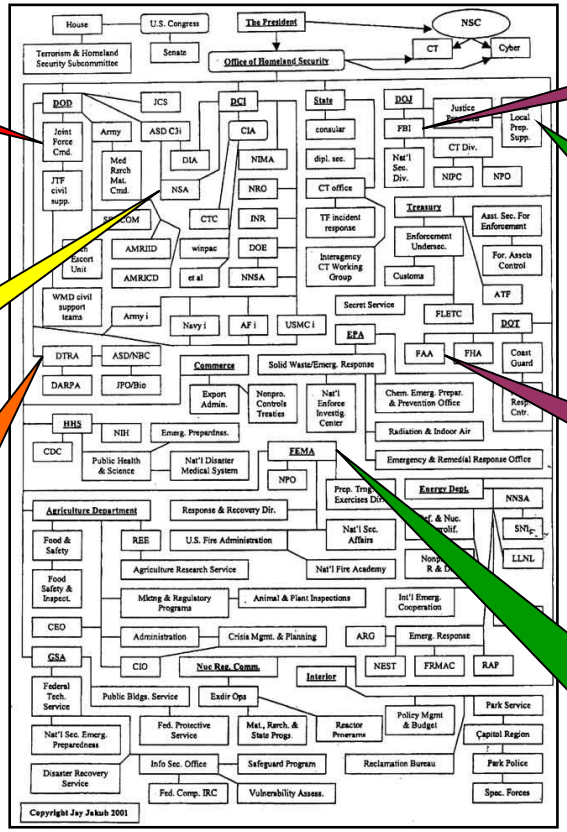
An Example

Office of Homeland Security
"Coordination Responsibilities"

United States Joint Forces Command (DoD Secret)

Federal Bureau of Investigation (FBI Secret)

"the ability to securely share information and resources across network domains of different sensitivity or classification level"



State/Local 1st Responders (Unclassified)

National Security Agency (DoD Top Secret SCI)

Federal Aviation Administration (FAA Secret)

Defense Threat Reduction Agency (DoD Top Secret)

Federal Emergency Management Agency (FEMA SBU)

Secure Information Sharing (Federal, State & Local Agencies)

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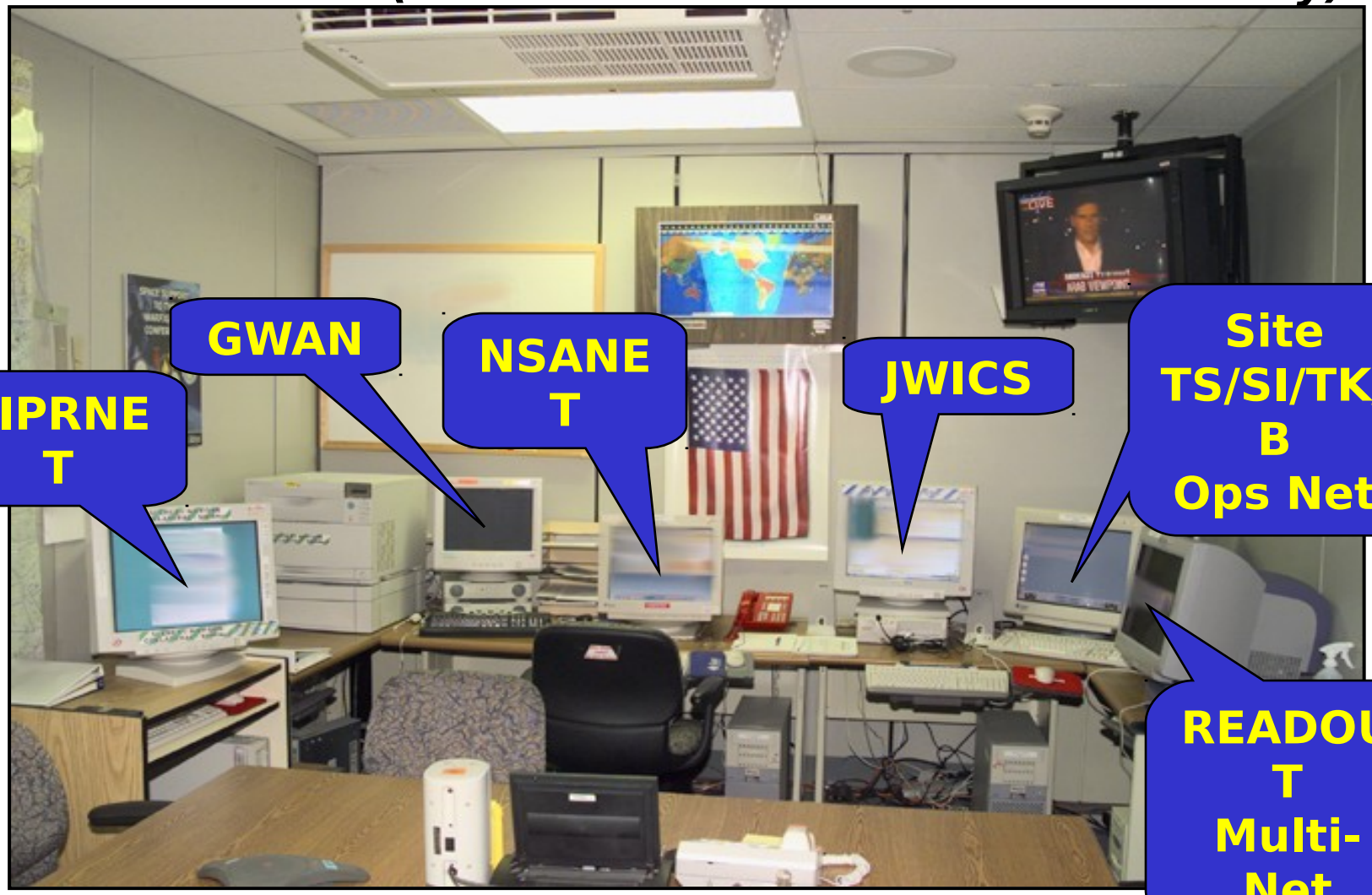
Behind the "Green Door"

(Undisclosed US Government Facility)



Court

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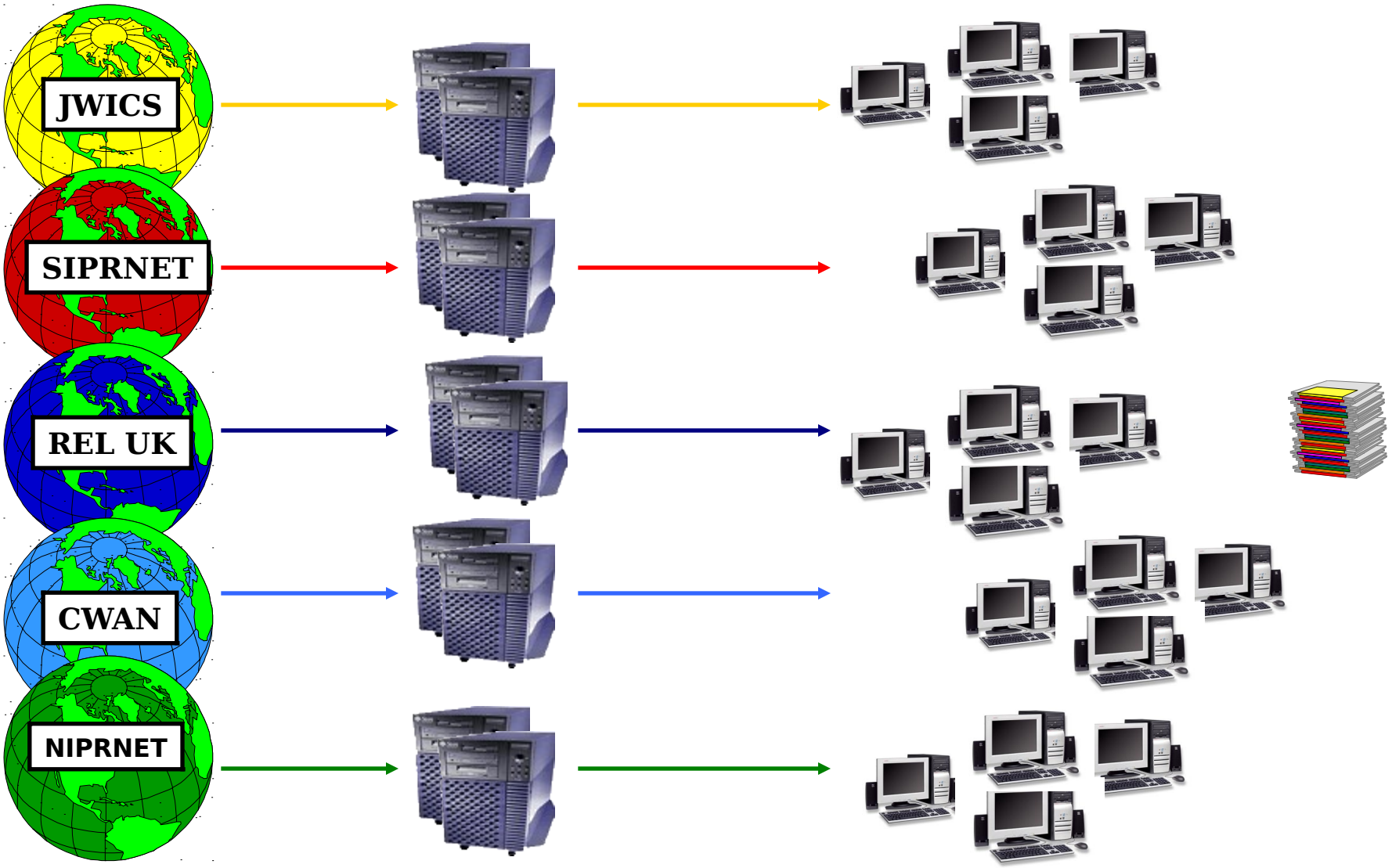
Requirement Deconstructed



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The Problem

Analyst Workstation #1

Analyst Workstation #2

Analyst Workstation #5

Analyst Workstation #4

Analyst Workstation #3

Unclassified

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Evolution of the Solution

OpsIntel Workstation 1995

SOUTHCOM
SOCOM

SecureOffice Fat Client 1998

JICPAC
Army ASAS
TRANSCOM
SPACECOM
Scott AFB
USFJ
Eglin AFB

SecureOffice Thin Client 2002

JICPAC
DISA
USS Mount Whitney
JIATF East
INSCOM
NAVAIR

SecureOffice Enterprise 2003

JICPAC
DIAC

DoDIIS Trusted Workstation (DTW) 2004

AKA:
- OpsIntel Workstation (OIW)
- Trusted Workstation (TWS)
- ASAS TWS
- Multi-Network Workstation (MNW)
- N-Level Workstation
- Multi-Level Thin Client (MLTC)

Installed, Accredited & Operational

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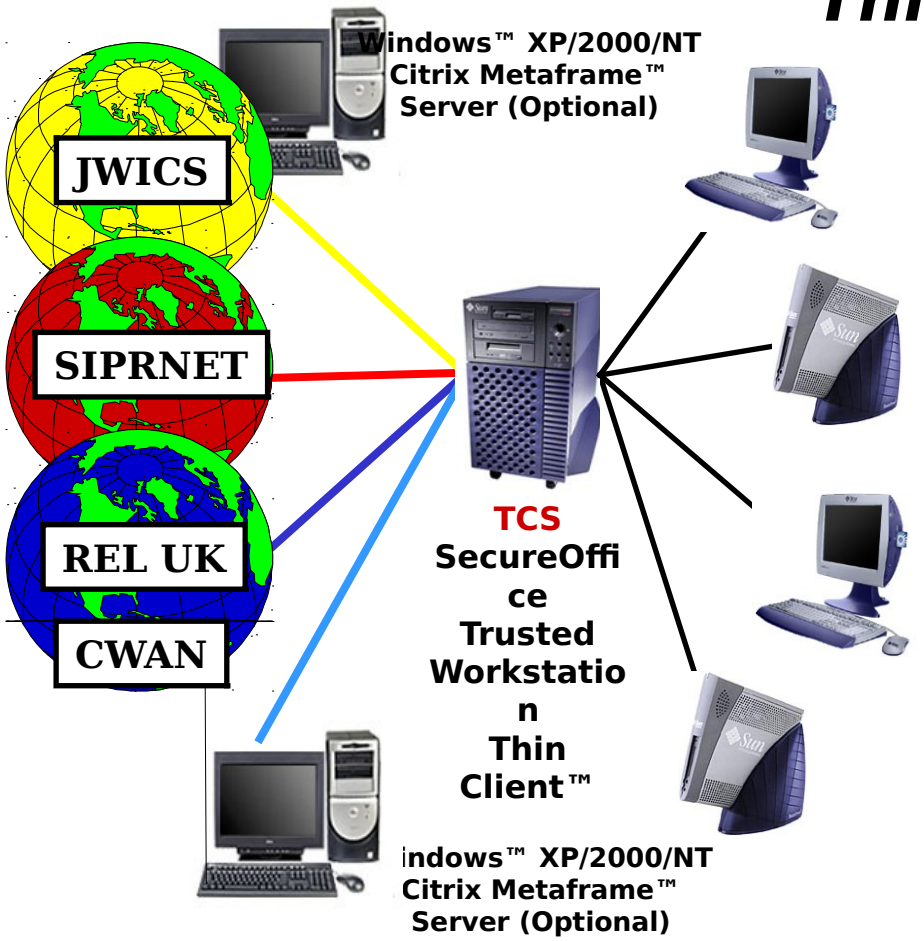
The DTW Solution

SecureOffice® Trusted Workstation™ Thin Client



Features

- Sun SunRay™ Appliances (Ultra Thin Clients) execute applications simultaneously (at multiple classification levels) via TCS SecureOffice Trusted Workstation Thin Client™:
  - Full Microsoft Windows XP/2000/NT application and network functionality via Citrix, rdesktop, Tarantella, etc.
  - E-mail, web browsing, and collaboration
  - Sun StarOffice
  - Sun SunForum
  - Accredited TCS Trusted Relabeler™
- Simultaneous access to resources and legacy servers on multiple classified networks
- DIA accredited and fielded operationally

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SecureOffice Trusted Workstation Overview

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Site Specific Configuration

SecureOffice Trusted Workstation Product

Multi-Level Network Connection

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Ease of Installation/Administration

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Installation Guide based on Security and Operational Requirements

SecureOffice Installation Script requiring minimal operator input

TCS GUI-based Administrative Tools

Accreditation Level Definition
MLS Remote Host Database
MLS DNS
MLS Gateway Routers
IP Filter
Audit Reduction
Backup/Recovery Utilities
Virus Definition List Update
Trusted File Relabeler Administration
SunRay Session Server Configuration
Citrix ICA Client Configuration
NIS+ Configuration
NFS Configuration

Security Enhancements During Installation:

IP Filter Firewall Enabled
Enforce Principle of Least Privilege on all actions
Modification of Applications for a Multi-Level Environment (SunRay Session Server, SunForum, sendmail, etc)
Audit Management

High Security Configuration

Optional Installation Parameter
Enhances Security Lockdown
Minimizes User Application Access
Strict Administrative Privilege Control

Site-specific Label Encodings Definition File(s)

Muiti-Level Network Connection

Jumpstart Everything

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Enhanced Security

Network Hardening

Disable Unneeded Services
IP Packet Filter Enforcement
(Deny all, Allow specific)

User Configuration Control

User Privilege Bracketing
Minimization of User Privileges
No Terminal Access for Users
ACL Enforcement on administrative tools

MS Windows Lockdowns

Accredited Configuration

Smart Card User Registration
Two-Factor Authentication

Multi-Level Network Connection

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Enhanced Operator Functionality

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Multi-Level Aware Applications

StarOffice
Sendmail
Printing
SunForum
Netscape
Imagery Applications
Multi-Level Launch for all Apps

Standard Drag and Drop Point and Click Interface

Trusted File Relabeler

Two-person Review
Role-based Access Control
File Type Policy
Virus Scan
Dirty Word Search
Clean Word Exclusion
Native Format View
Strict Auditing
Site Security Policy Enforcement
Workflow Enforcement

Integrated Windows Access

Citrix
rdesktop
Tarantella
WinConnectS

Single Click Application Access

Multi-Level Network Connection

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Ease of Use

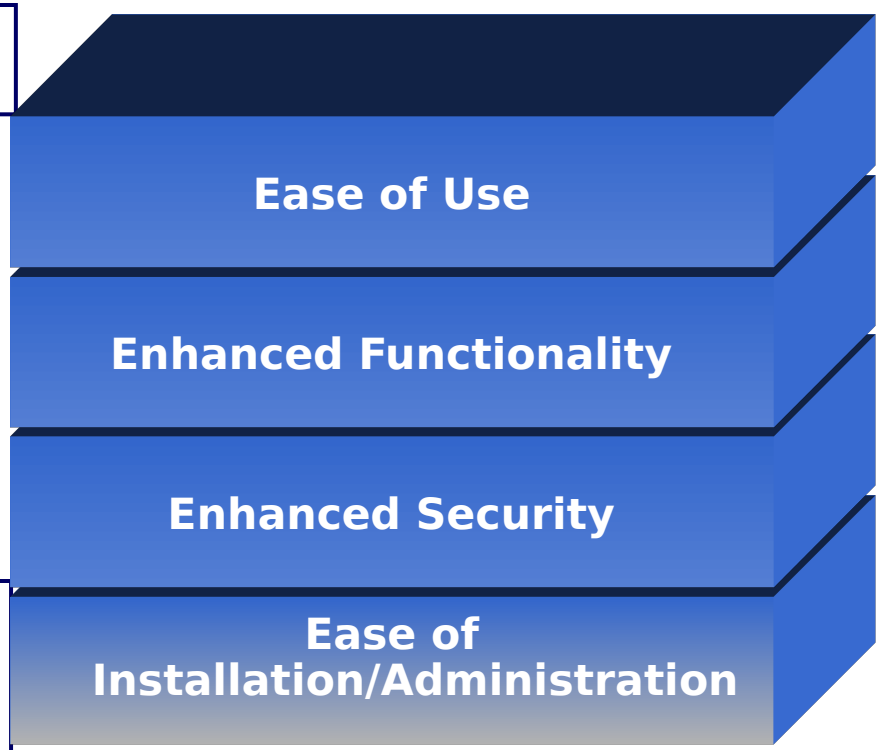
GUI-fied Administration Tools

Unix to Windows Drive Mapping

Common Desktop Environment Application Access

Multi-Level Application Execution

Online Backup Utility



Enable Desktop Reduction Virtual Workspaces

Audit Review And Backup Utility

Single Point Windows Access

Multi-Level File Sharing via Trusted File Relabeler

Multi-Level Network Connection

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Fast Track Accreditation

C&A Bundled Services

Documentation Support
Test Procedure Generation
On-site Accreditation Support

Track Record

9+ Years of Successful Accreditation

Contracted to Accredit Non-TCS Solutions

Accredited Baseline e.g. JICPAC

Multiple Agency Security Assessments

Certification and Accreditation Documentation Templates

DCID 6/3 (TSABI)
DITSCAP (SABI)

Community Standard Solution

Multi-Level Network Connection

Unclassified
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SecureOffice Trusted Workstation Overview

Multi-Level Network Connection

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DTW TCO

- Substantial Reduction in Workstation Cost
- Network Infrastructure Cost Decreased
- Reduction in Maintenance Cost
- Reduction in Network/User Expansion Cost
- Simplified Exercise Support
- ‘Apples to Apples’ vice ‘Apples to Oranges’
  - Per Seat Per Network
  - Hardware Configuration Options (i.e.- Flat Panel Display)

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SecureOffice License Costs*

SecureOffice Component	Unit Cost
SecureOffice™ Thin Client Server Software License (Up to 4 CPU Enterprise Server) (Up to 3 Networks)	$30,223.69
SecureOffice™ Thin Client Server Software License, Each Additional 1-4 CPUs	$13,274.56
SecureOffice™ Thin Client Server Software License, Each Additional Network	$ 9,848.87
Maintenance for SecureOffice™ Thin Client Server (Enterprise Server)(One Year)	$ 6,044.74
SecureOffice™ Thin Client Server Client License, per seat (One Year, Includes Maintenance)	$ 249.87

* Excerpted from TCS GSA Schedule

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SecureOffice TCO with Citrix Component

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Enter projected number of seats:	1,500
Enter number of connected networks:	4

Your TCS Cost Savings:	$	11,242,995.96
Your TCS Cost Savings per Seat per Network:	$	1,873.83

ESTIMATED TCS SOLUTION - SOFTWARE COSTS

Estimated TCS Licensing

Annual Costs	$	557,550.00
Total TCS Software Cost	$	1,476,423.74
Estimated Citrix Licensing	$	552,543.00
Estimated TCS Software Cost	$	2,028,966.74
Estimated TCS Software Cost per Seat	$	1,352.64
Estimated Cost per Seat per Network	$	338.16

ESTIMATED PC SOLUTION - SOFTWARE COSTS

Estimated PC-Based Solution Licensing

Annual Costs		TBD
Estimated PC Server Software Cost	$	1,742,908.00
Estimated PC Client Licensing	$	1,302,000.00
Estimated PC Software Cost	$	3,044,908.00
Estimated PC Software Cost per Seat	$	2,029.94
Estimated Cost per Seat per Network	$	507.48

ESTIMATED TCS SOLUTION - HARDWARE COSTS

SecureOffice Server	$	1,040,465.10
Thin Client Appliances	$	571,515.00
Citrix Server	$	24,753.20
Estimated Hardware Cost	$	1,636,733.30
Estimated Hardware Cost per Seat	$	1,091.16
Estimated Cost per Seat per Network	$	272.79
Estimated Setup Cost	$	3,665,700.04
Estimated Setup Cost per Seat	$	2,443.80
Estimated Cost per Seat per Network	$	610.95

ESTIMATED PC SOLUTION - HARDWARE COSTS

Baseline PC Server Cost	$	2,227,788.00
Baseline PC Client Cost	$	9,636,000.00
Estimated PC Hardware Cost	$	11,863,788.00
Estimated PC Hardware Cost per Seat	$	7,909.19
Estimated PC Cost per Seat per Network	$	1,977.30
Estimated PC Solution Setup	$	14,908,696.00
Estimated PC Solution Setup per Seat	$	9,939.13
Estimated PC Cost per Seat per Network	$	2,484.78

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SecureOffice TCO without Citrix Component

Trusted Computer Solutions

Enter projected number of seats:	1,500
Enter number of connected networks:	4

Your TCS Cost Savings:	$ 11,883,952.16
Your TCS Cost Savings per Seat per Network:	$ 1,980.66

ESTIMATED TCS SOLUTION - SOFTWARE COSTS

Annual Costs	$	557,550.00
Total TCS Software Cost	$	1,476,423.74

Estimated TCS Software Cost	$	1,476,423.74
Estimated TCS Software Cost per Seat	$	984.28
Estimated Cost per Seat per Network	$	246.07

ESTIMATED PC SOLUTION - SOFTWARE COSTS

Annual Costs		TBD
Estimated PC Server Software Cost	$	1,742,908.00

Estimated PC Software Cost	$	3,044,908.00
Estimated PC Software Cost per Seat	$	2,029.94
Estimated Cost per Seat per Network	$	507.48

ESTIMATED TCS SOLUTION - HARDWARE COSTS

SecureOffice Server	$	1,040,465.10
Thin Client Appliances	$	507,855.00

Estimated Hardware Cost	$	1,548,320.10
Estimated Hardware Cost per Seat	$	1,032.21
Estimated Cost per Seat per Network	$	258.05

ESTIMATED PC SOLUTION - HARDWARE COSTS

Baseline PC Server Cost	$	2,227,788.00
Baseline PC Client Cost	$	9,636,000.00

Estimated PC Hardware Cost	$	11,863,788.00
Estimated PC Hardware Cost per Seat	$	7,909.19
Estimated PC Cost per Seat per Network	$	1,977.30

Estimated Setup Cost	$	3,024,743.84
Estimated Setup Cost per Seat	$	2,016.50
Estimated Cost per Seat per Network	$	504.12

Estimated PC Solution Setup	$	14,908,696.00
Estimated PC Solution Setup per Seat	$	9,939.13
Estimated PC Cost per Seat per Network	$	2,484.78

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JWICS to NIPRNet Proposed Solution

- TCS WebShield
  - High-to-Low Browse Down Technology
  - Accredited by DIA in TSABI Configuration
  - Operational in Multiple Lab Environments

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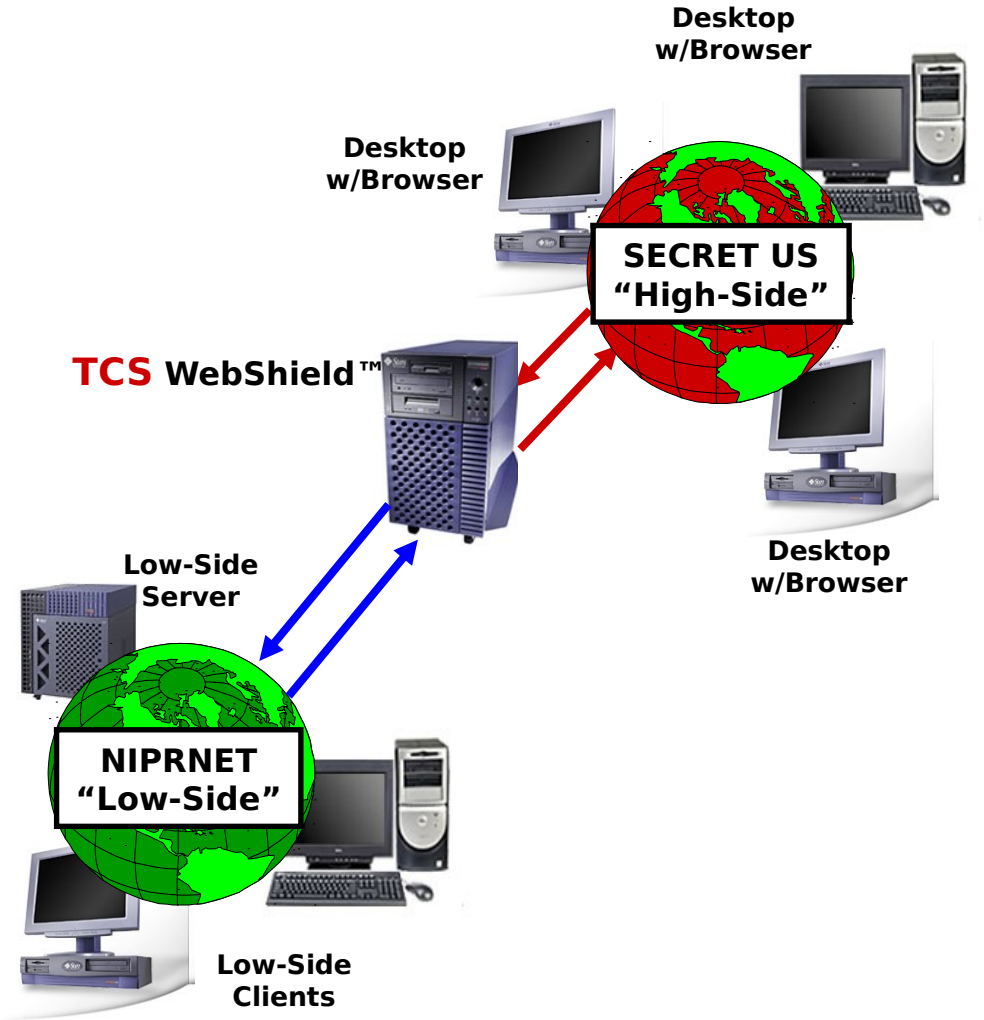
TCS WebShield™



Features

- Using standard browser, browse down from one classified network to web servers on a lower level network
- Downgrade "Request" (www.cwan_server.mil) then upgrade of "Response" (web page)
- Site configurable HTTP request filtering, dirty word search, forms filtering and downgrade
- Configurable response filtering for active content: Java Applets, Java Scripts, Active X, plus other MIME types
- Virus scanning
- Strong authentication using DoD X.509 digital certificate, IP address, or username/password (optional plug-in)
- DIA accredited

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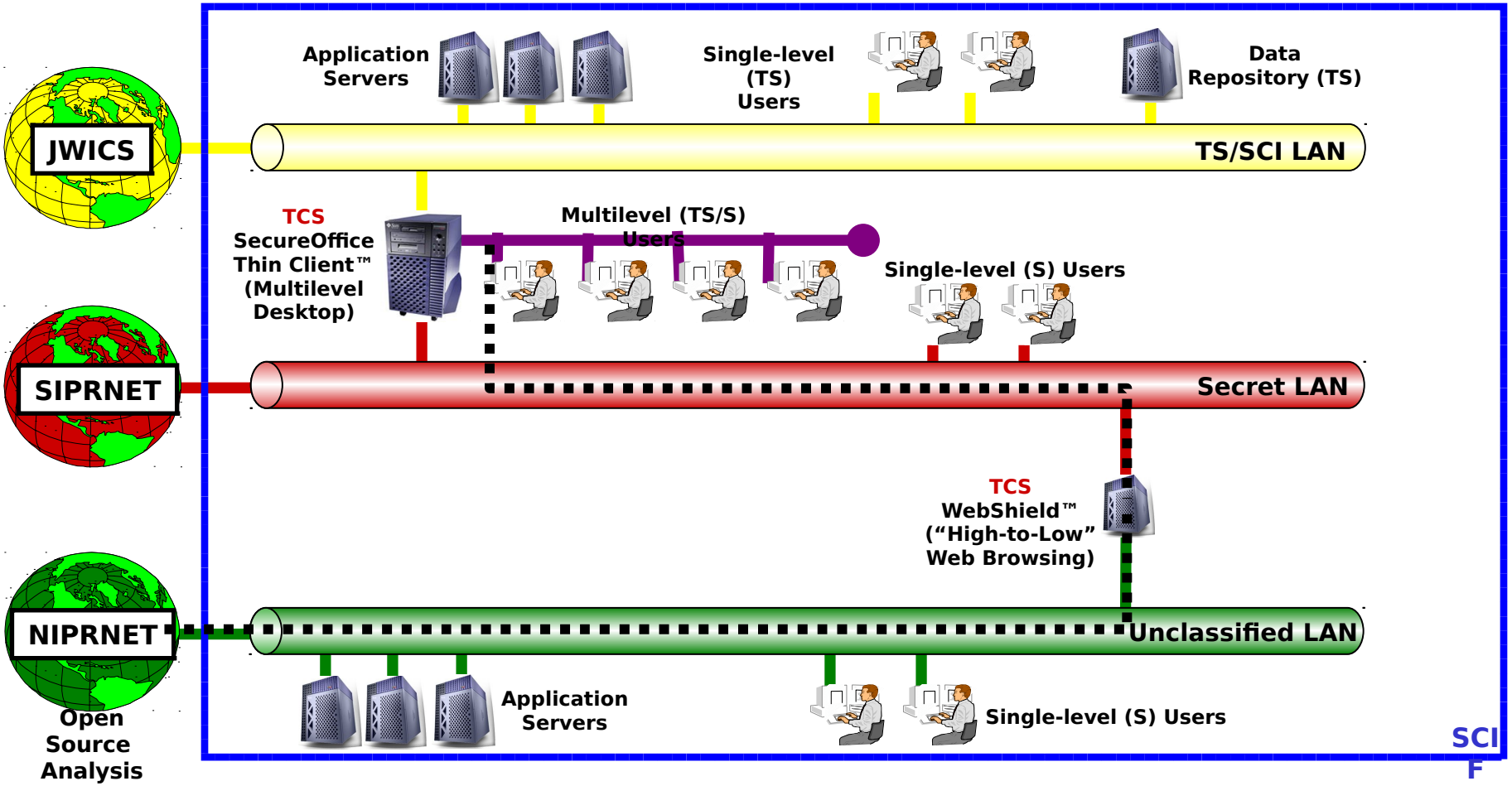
JWICS to NIPRNet Proposed Solution



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Architectural Examples

- JICPAC
- MDDS
- Army ASAS
- Navy JCIS Afloat

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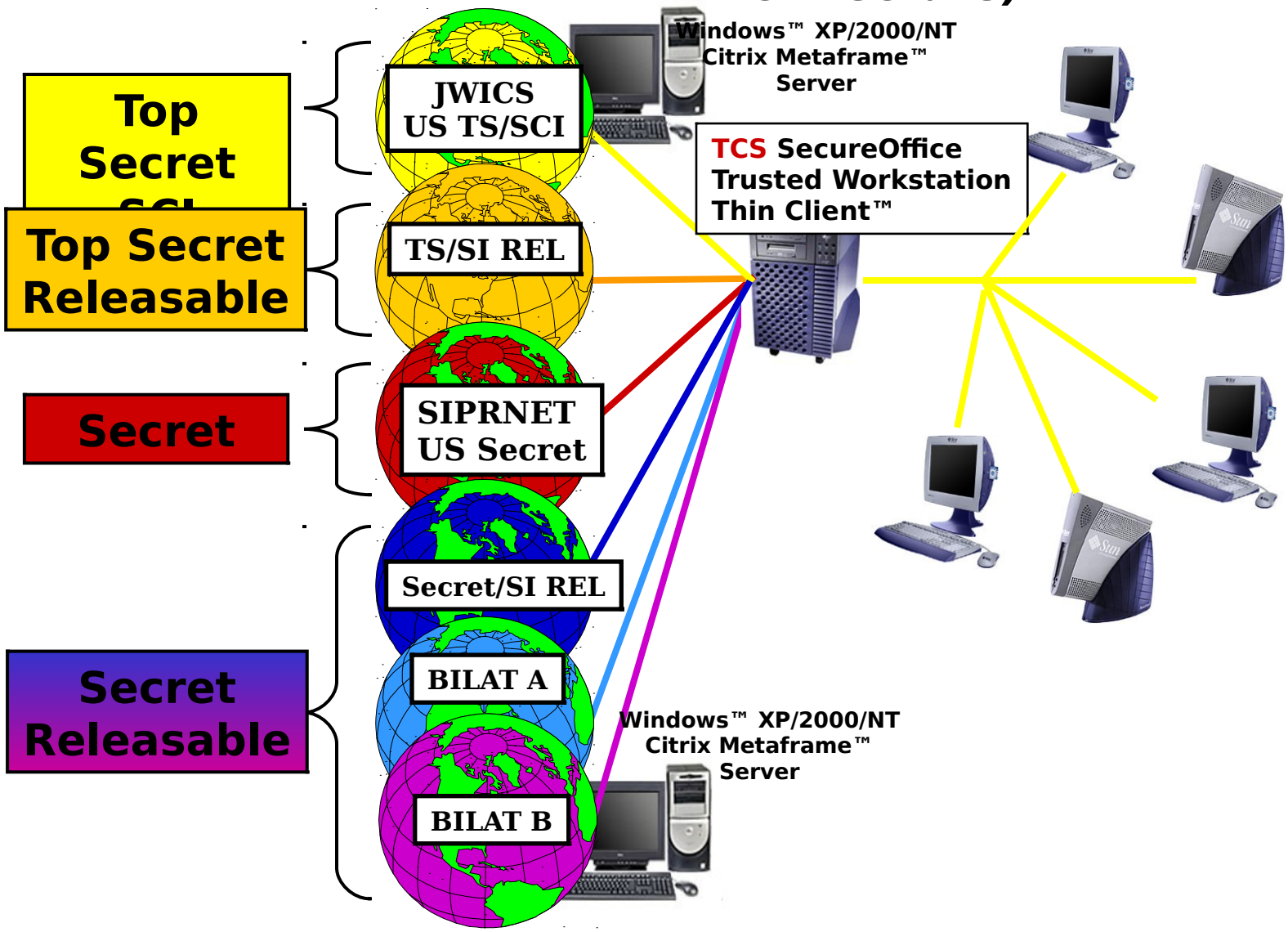
JICPAC

(Real-World SecureOffice Thin Client™ Architecture)



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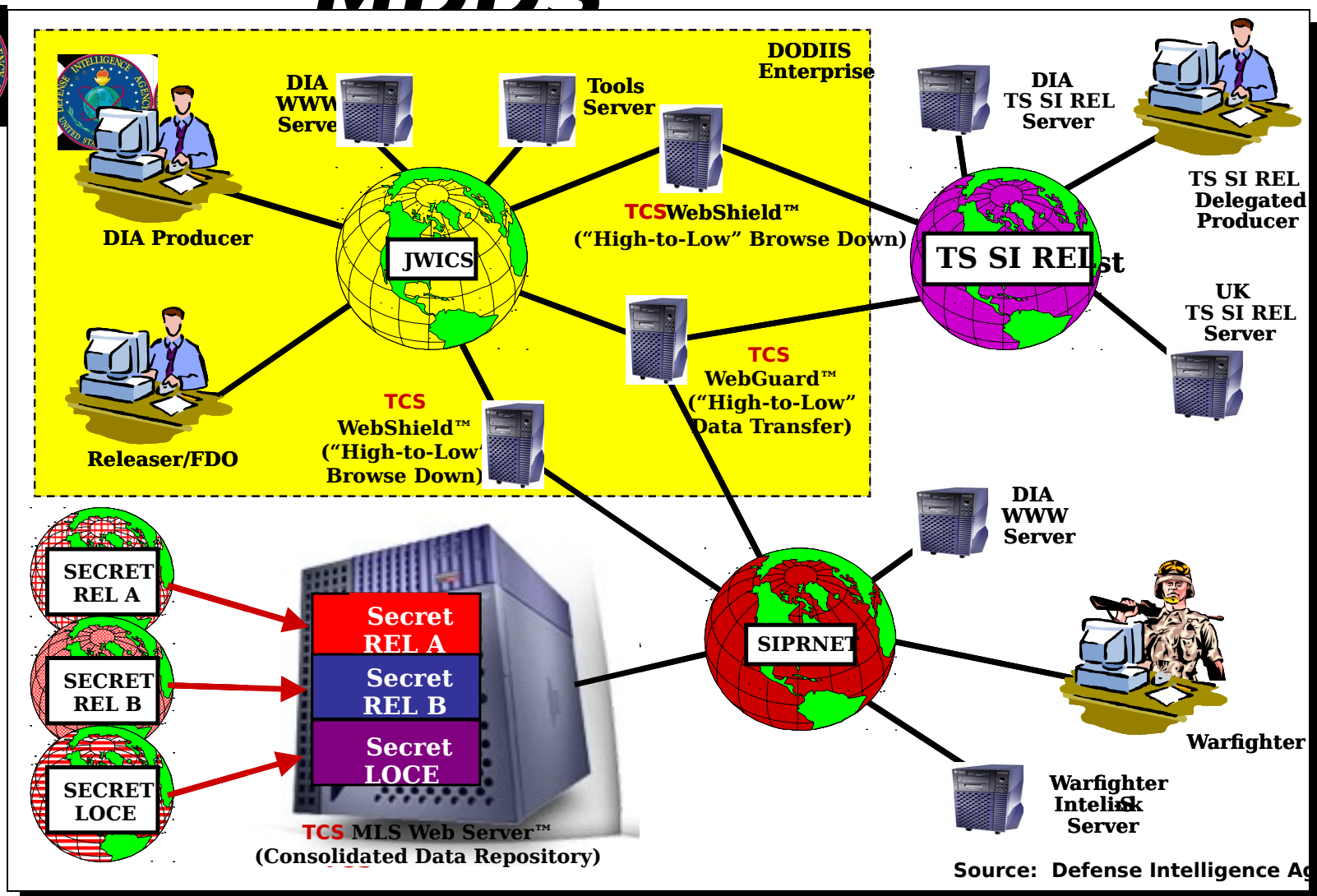
TCS Supports DIA MDDS



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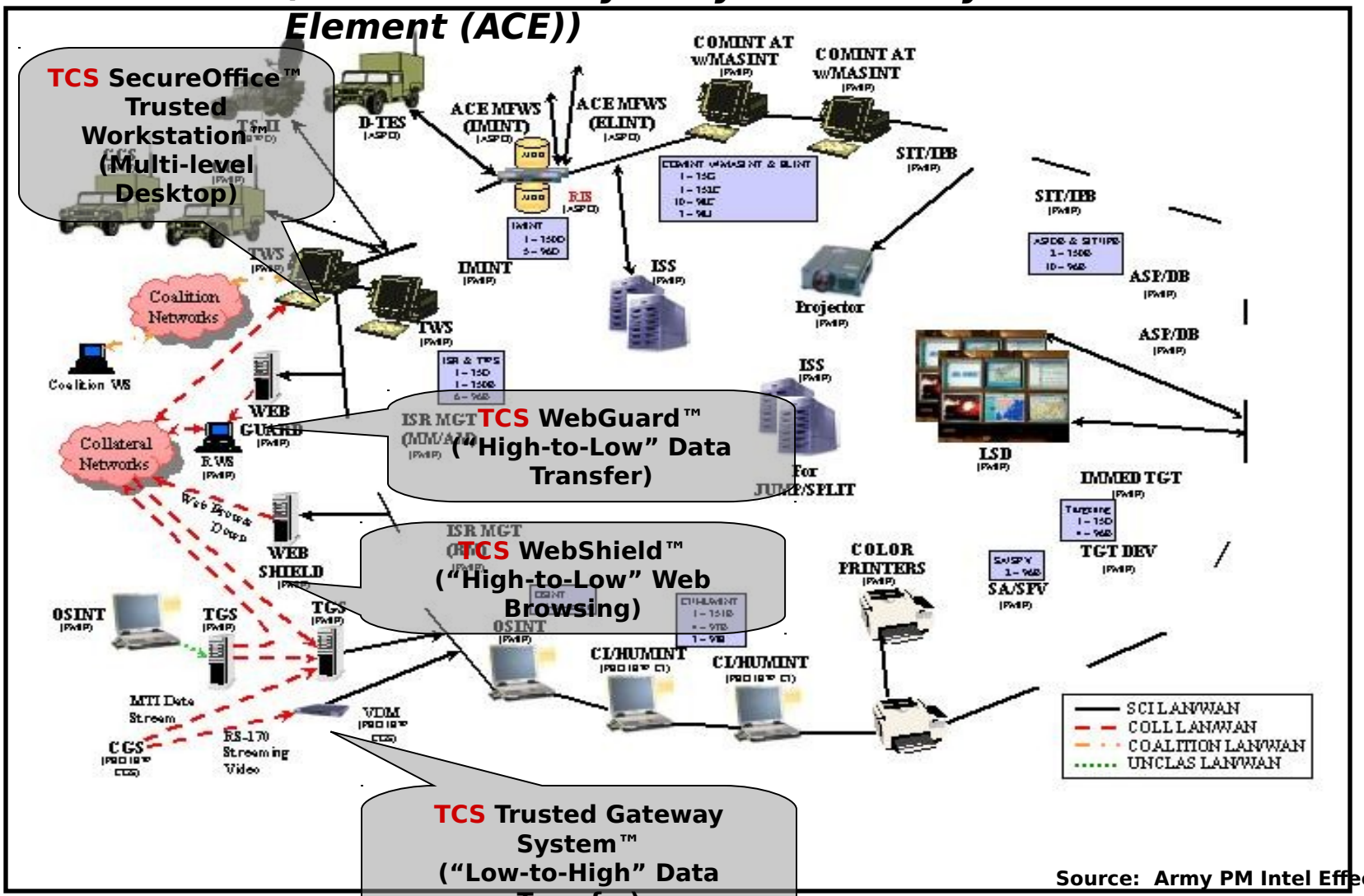
TCS Supports Army ASAS

(All Source Analysis System – Analysis and Control Element (ACE))



Source: Army PM Intel Effects

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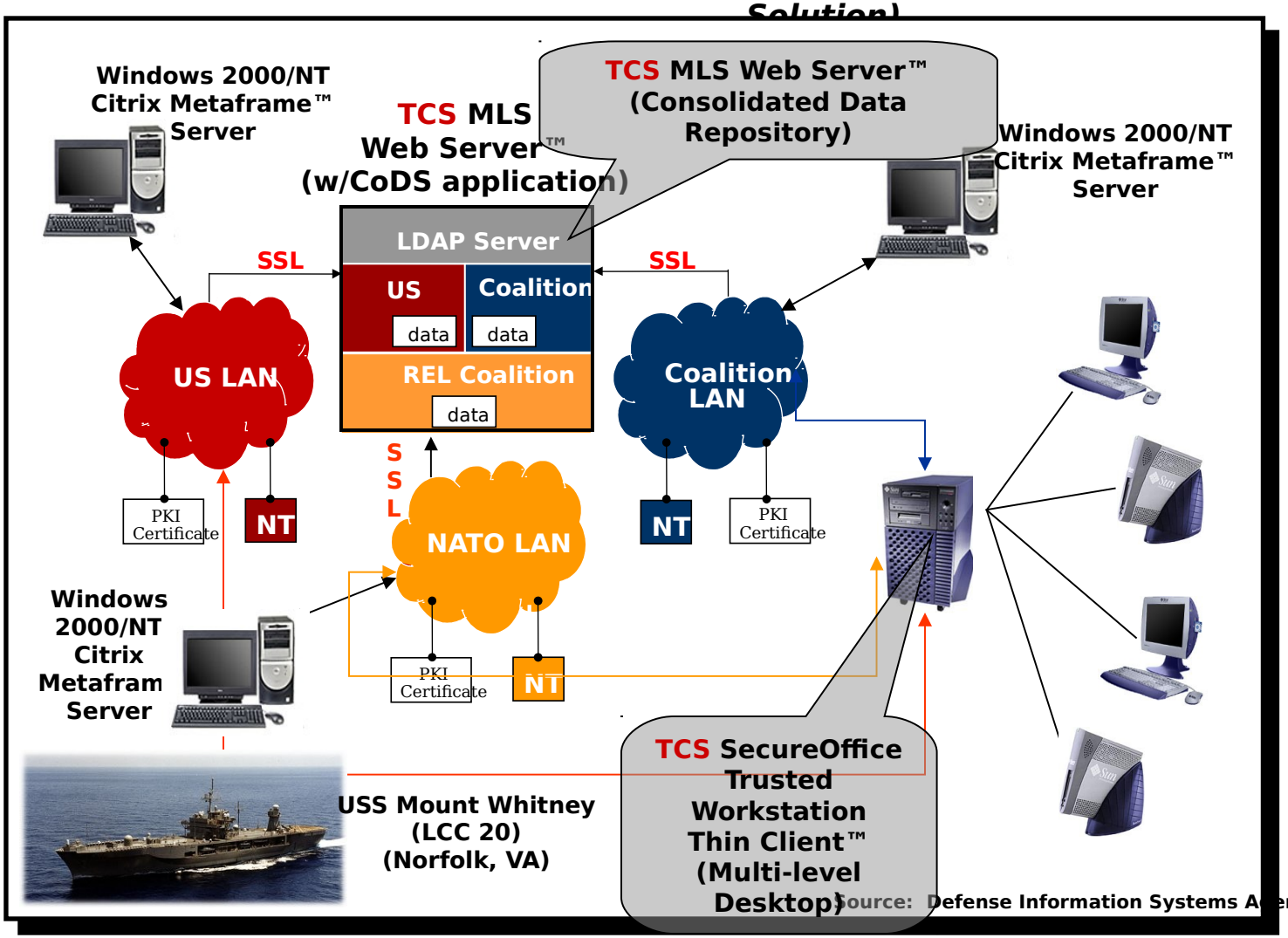
TCS Supports DISA JCIS - Afloat

(Defense Information Systems Agency Joint Coalition Interoperability Solution)



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Defense/Intelligence Customers

- Air Force
  - Air Combat Command (ACC)
  - Air Force Research Labs (AFRL)
  - Air Force Technical Applications Ctr (AFTAC)
  - Air Force Weather Agency (AFWA)
- Army
  - Intelligence and Security Command (INSCOM)
  - PM Intel Effects (Fusion)
  - Redstone Arsenal
- Central Intelligence Agency (CIA)
- Defense Information Systems Agency (DISA)
- Defense Intelligence Agency (DIA)
- Defense Logistics Agency (DLA)
- Defense Threat Reduction Agency (DTRA)
- Federal Bureau of Investigation (FBI)
- Intelink Management Office (IMO)
- Joint Inter Agency Task Force (JIATF) East
- Joint Staff
- Marine Corps Intelligence Agency (MCIA)
- National Reconnaissance Office (NRO)
- National Security Agency (NSA)
- Navy
  - AEGIS Training Center
  - Joint Deployable Intelligence Support System (JDISS)
  - Naval Research Lab (NRL)
  - Naval Training Systems Command (NTSC)
  - Navy Air (NAVAIR)
  - Navy Oceanographic (NAVO)
  - Office of Naval Intelligence (ONI)
  - Space & Naval Warfare Systems (SPAWAR)
- Office of the Secretary of Defense (OSD)
- Unified Cryptologic Architecture Office (UCAO)
- US Joint Forces Command (USJFCOM)
  - Joint Battle Center
  - Joint Training, Analysis & Simulation Ctr
- US Northern Command (USNORTHCOM)
- US Pacific Command (USPACOM)
- US Southern Command

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Civilian/Commercial Customers

- Census Bureau
- Department of Commerce
- Center for Disease Control
- Department of Justice
- Department of State
- Department of Transportation
- General Services Administration
- Federal Bureau of Investigation
- Korean Security Service
- Internal Revenue Service
- Malaysian CERT
- NASA
- USXPORTS
- Washoe County School District

- Australia/New Zealand Banking Group
- AMS
- Bank of Montreal
- Barclays PLC
- Computer Sciences Corporation
- HP (Compaq/DEC)
- CSCI
- Darlington Industries, Inc.
- Exodus Communications
- Lockheed-Martin
- Northrop Grumman IT
- Raytheon
- RealMed
- SIAC
- SNRTEC
- Sun Microsystems
- TriZetto Group
- Union Pacific Railroad
- Verio

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TCS On GSA Schedule

- TCS GSA Schedule
  - #GS-35F-0084J
  - Products & services to secure "Cross Domain Interoperability"
    - 20+ commercial products
    - Assessment capabilities
    - End User and Administrator training
    - 12 labor categories
- TCS is a Sun Microsystems iForce Government Systems Provider

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Overview

- Trusted Computer Solutions Overview
- SecureOffice Trusted Workstation Evolution
- SecureOffice Trusted Workstation in Operation
- TCO Analysis
- DoDIIS Trusted Workstation Demonstration
- Hands-on Demonstration
- Register for a Golfer's Prize

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TCS Points of Contact

- George Kamis
  - Vice President, Engineering
  - kamis@tcs-sec.com
- Denise Mach
  - DoD Sales
  - dmach@tcs-sec.com
- Kathleen Johnson
  - Civilian, DoD Sales
  - kjohnson@tcs-sec.com
- Sean Mills
  - Secure Systems Engineer
  - smills@tcs-sec.com
- Doug Norton
  - Secure Systems Engineer
  - dnorton@tcs-sec.com

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